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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,572	07/11/2003	Robert G. Batchko	BAT-102	3542

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EXAMINER	
BOUTSIKARIS, LEONIDAS	
ART UNIT	**PAPER NUMBER**
2872	

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/617,572	BATCHKO, ROBERT G.
	Examiner	Art Unit
	Leo Boutsikaris	2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) *19,20,25 and 26* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18,21-24,27 and 28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/11/03;6/18/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 19-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Species II, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 6/18/2004.

Newly presented claims 25-26 are directed to the non-elected Species II and are hereby withdrawn. It is noted that by the amendment filed on 6/18/2004, claims 25-26 are now linking Species I and Species II, and upon allowance of claim 1, claims 25-26 will be rejoined and allowed.

Species I and Species II are patentably distinct because the former is drawn to a variable focus lens assembly comprising a plurality of switchable optical elements, whereas the latter is drawn to a specific method of making a single switchable lens element.

Specification

The abstract of the disclosure is objected to because the word "Whereby" in line 3 should be part of the previous sentence. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-9, 14-17, 21-24, 27-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishimoto (GB 2171535).

Regarding claim 1, Nishimoto discloses a variable focal length lens system (Fig. 2) for providing an optical system having a plurality of selectable focal powers ranging between f1 and f2, comprising:

a first switchable element 2 capable of being switched between a first element first state (when the switch 5 is open) and a first element second state (when the switch 5 is closed);

and a second switchable element 6 capable of being switched between a second element first state (depending on the state of variable voltage source 7) and a second element second state (depending on another state of variable voltage source 7);

wherein the first and second switchable elements are in optical communication with each other, such that each of them may contribute to a cumulative focal power;

wherein there are four distinct pairs of states of the two elements [i.e., (switch 5 open, 1st state of voltage source 7), (switch 5 closed, 1st state of voltage source 7), (switch 5 open, 2nd state of voltage source 7), (switch 5 closed, 2nd state of voltage source 7)], each pair producing a different value for the cumulative focal power of the lens assembly (lines 79-90, p. 2).

Regarding claims 2, 4, 9, 28, the switchable lens 6 may be a liquid crystal lens (line s34-37, p. 2).

Regarding claim 6, the lens system further includes non-switchable elements such as polarizing plate 1 and birefringent lens 3 (Fig. 2 and lines 77-80, p. 1).

Regarding claims 5, 7, the variable focal length system of Nishimoto may include a stack of N switchable elements, where N>2, see Fig. 5.

Regarding claim 8, one of the switchable elements is an electro-optic lens (lines 50-52, p. 2).

Regarding claims 14, 21, the lens assembly includes a controller, including a microcomputer, for activating the switchable elements (lines 7-13, p. 3).

Regarding claims 15, 27, variable focal length lens 6 is continuously tuned within the range of its focal length by continuously varying the voltage source 7 (lines 83-87, p. 2).

Regarding claim 16, the lens system further includes a light source providing light beam incident on the switchable element 2.

Regarding claim 17, the light is received and transmitted by the first and second switchable elements 2 and 6, respectively, and is modified (i.e., focused) according to the selected focal powers of the two switchable elements.

Regarding claim 22, the control signal controls the state (ON or OFF) of the n switchable elements, thus it contains a number of bits corresponding to the number of elements being controlled (lines 120-122, p. 2).

Regarding claims 23-24, the control signal is an electrical signal in the form of voltage appropriate to set the focal length of switchable element 6 to the desired state.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 10-13, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimoto (GB 2171535).

Nishimoto discloses all the limitations of the above claims except for teaching that the variable focal length lens system may be used in optical systems such as telescopes, cameras, projectors, or microscopes. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the variable focal length lens system of Nishimoto in one of the above mentioned applications, since Official Notice is taken that the above optical systems routinely utilize variable focal length lenses, for providing increased flexibility to the user. A lens system like the one disclosed by Nishimoto is advantageous because of its lack of moving mechanical parts in varying the focal length of the composite system. For illustration purposes only, Ogata (US 5,920,427, Fig. 2) discloses an optical camera system having variable focal length capability.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimoto (GB 2171535) in view of Popovich (US 6,356,366).

Nishimoto discloses all the limitations of the above claim except for teaching that some of the switchable elements are switchable holographic optical elements. Popovich discloses a

variable focal length lens assembly (Fig. 1), comprising a stack of three switchable holographic optical elements 26, 28, 30. Each holographic element can either focus incident light or allow light to pass through without alteration depending on voltage that is applied at its two surfaces. By selectively activating one of the three holographic elements, the lens assembly of Fig. 1 may have three different focal lengths (lines 19-24, col. 3, 14-29, col. 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a switchable holographic optical element in place of the switchable element 2 in Nishimoto's system, since holographic lenses are easier to make and are less bulky than electro-optic crystals.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Leo Boutsikaris whose telephone number is 571-272-2308.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leo Boutsikaris, Ph.D.
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March 15, 2005

LEONIDAS BOUTSIKARIS
PRIMARY EXAMINER